

**IN THE CLAIMS**

The following is a complete listing of revised claims with a status identifier in parenthesis. Applicants note that claims 4-7, 10,16, 23-25 and 29 have been cancelled without prejudice to, or disclaimer of, the subject matter of these claims.

**LISTING OF CLAIMS**

1. (Currently Amended) A method for controlling handoffs in a wireless communication system, comprising the steps of:  
  
receiving a plurality of vectors associated with the mobile unit;  
  
detecting multipath propagation when at least two of the plurality of received vectors include identical location and time coordinates; and  
  
performing a handoff when multipath propagation is detected ~~location~~  
~~vector associated with a mobile unit, wherein each~~ the location vector  
comprises three dimensional terrestrial data; ~~and~~  
  
~~determining whether to perform a handoff of the mobile unit based on the received vector.~~
2. (Currently Amended) The method of claim 1, further comprising the steps of: transmitting each ~~the location~~ vector to the mobile unit, ~~wherein the vector includes location and time coordinates~~; and receiving a response from the mobile unit based on the transmitted ~~vector~~ vectors.
3. (Currently Amended) The method of claim 1, wherein each ~~the~~

~~location~~ vector comprises Global Positioning System (GPS) data.

4. (Canceled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The method of claim 1, further comprising the steps of: ~~receiving a plurality of received vectors associated with the mobile unit~~; calculating a magnitude of each of the plurality of received vectors; combining the calculated magnitudes into a combined magnitude; and determining whether the handoff is necessary based on the combined magnitude.

9. (Currently Amended) The method of claim 8, ~~wherein the determining step further comprises~~ comprising the step of: receiving one or more magnitudes from one or more other base stations; comparing the combined magnitude to the received magnitudes; and determining that a handoff is necessary when one of the received magnitudes is less than the combined magnitude.

10. (Cancelled)

11. (Currently Amended) The method of claim 1, ~~wherein the determining step further comprises~~ comprising the steps of: obtaining service quality data based on each ~~the~~ received vector, wherein the service quality data

includes at least one of an environmental and geographical condition related to a coverage area of a base station; and determining whether to perform the handoff based on the service quality data.

12. (Currently Amended) The method of claim 11, wherein the obtaining step further comprises the steps of: extracting at least one of a location and time coordinate from each ~~the~~ received vector; and retrieving the service quality data from a database based on the extracted information.

13. (Currently Amended) The method of claim 12, wherein the retrieving step further comprises the step of: retrieving a geographical condition from the database based on location coordinates extracted from each ~~the~~ received vector, the retrieved geographical condition including at least one of: topographical data, structural data, and known reflection path.

14. (Currently Amended) The method of claim 12, wherein the retrieving step further comprises the step of: retrieving an environmental condition from the database based on time information extracted from each ~~the~~ received vector, the environmental condition selected from the group consisting of at least: rain, wind, temperature and humidity.

15. (Currently Amended) The method of claim 1, further comprising the steps of: ~~receiving a plurality of received vectors associated with the mobile unit;~~ estimating future location coordinates for the mobile unit based on the plurality of received vectors; and retrieving a geographical condition from a

database based on the estimated future location coordinates.

16. (Cancelled)

17. (Currently Amended) The method as in claim 1 further comprising the step of generating each ~~the~~ vector at the mobile unit.

18. (Currently Amended) The method as in claim 1 further comprising the step of generating each ~~the~~ vector at a base station.

19. (Currently Amended) The method as in claim 1 further comprising generating each ~~the~~ vector at a GPS satellite.

20. (Currently Amended) A device for controlling handoffs in a wireless communication system, comprising:

means for receiving a plurality of vectors associated with the mobile unit;

means for detecting multipath propagation when at least two of the plurality of received vectors include identical location and time coordinates;  
and

means for performing the handoff when multipath propagation is detected ~~location vector associated with a mobile unit, wherein each the~~  
~~location vector comprises three dimensional terrestrial data; and means for~~  
~~determining whether to perform a handoff of the mobile unit based on the~~  
~~received vector.~~

21. (Currently Amended) The device of claim 20, further comprising:  
means for transmitting each ~~the location~~ vector to the mobile unit, ~~wherein the~~

~~vector includes location and time coordinates;~~ and means for receiving a response from the mobile unit based on the transmitted vectors ~~vector~~.

22. (Currently Amended) The device of claim 20, wherein each ~~the~~ ~~location~~ vector comprises Global Positioning System (GPS) data.

23. (Canceled)

24. (Cancelled)

25. (Cancelled)

26. (Currently Amended) The device of claim 20 ~~25~~, further comprising ~~wherein the~~ means for calculating a magnitude of each received vector; ~~further comprises;~~ means for receiving one or more magnitudes corresponding to coverage areas of one or more other base stations;

means for comparing the calculated magnitude to the received magnitudes; and

means for determining that the handoff is necessary when one of the received magnitudes is less than the calculated magnitude.

27. (Currently Amended) The device of claim 20, further comprising:  
~~means for receiving a plurality of received vectors associated with the mobile unit; means for calculating a magnitude of each of the plurality of received vectors;~~

means for combining the calculated magnitudes into a combined magnitude; and

means for determining whether the handoff is necessary based on the combined magnitude.

28. (Original) The device of claim 27, further comprising: means for receiving one or more magnitudes from one or more other base stations; means for comparing the combined magnitude to the received magnitudes; and means for determining that a handoff is necessary when one of the received magnitudes is less than the combined magnitude.

29. (Cancelled)

30. (Currently Amended) The device of claim 20, further comprising means for obtaining service quality data based on each ~~the~~ received vector, wherein the service quality data includes at least one of an environmental and geographical condition related to a coverage area of a base station, and means for determining whether to perform the handoff based on the service quality data.

31. (Currently Amended) The device of claim 30, further comprising means for extracting at least one of a location and time coordinate from each ~~the~~ received vector and means for retrieving the service quality data from a database based on the extracted information.

32. (Currently Amended) The device of claim 31, wherein the means for retrieving further comprises means for retrieving a geographical condition from the database based on location coordinates extracted from each ~~the~~ received

vector, the retrieved geographical condition including at least one of:  
topographical data, structural data, and known reflection path.

33. (Currently Amended) The device of claim 31, wherein the means for retrieving further comprises means for retrieving an environmental condition from the database based on time information extracted from each ~~the~~ received vector, the environmental condition selected from the group consisting of at least: rain, wind, temperature and humidity.

34. (Currently Amended) The device of claim 20, further comprising:  
~~means for receiving a plurality of received vectors associated with the mobile unit;~~ means for estimating future location coordinates for the mobile unit based on the plurality of received vectors; and

means for retrieving a geographical condition from a database based on the estimated future location co-ordinates.

35. (Currently Amended) The device of claim 20, wherein each ~~the~~ received vector further comprises time information.

36. (Currently Amended) The device as in claim 20 further comprising means for generating each ~~the~~ vector at the mobile unit.

37. (Currently Amended) The device as in claim 20 further comprising means for generating each ~~the~~ vector at a base station.

38. (Currently Amended) The method as in claim 20 further comprising means for generating each ~~the~~ vector at a GPS satellite.